Work Order ID 92982

November-12-12 3:33:35 PM

92982

Item ID: 647.9014 Accept *N900040100* Setup Start **Revision ID:** Item Name: Strut Bracket **Start Date: Start Qty: 20.00** 12/11/2012 Cust Item ID: **Required Date:** 03/12/2012 Req'd Qty: 20.00 **Customer:** Reference: Start Run Process Plan: MLJ Date: 12-11-13 Tooling: Approvals: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Reject Accept Insp. Work Center ID Description Run Hours Code Qty **Qty** Number Stamp Draw Nbr **Revision Nbr** 647.9000 N/C 110 . 0.00 *110* Waterjet 0.00 . Memo FLOW CNC Waterjet I-Cut as per Dwg Dwg Rev: N/C 304.063 Prog Rev: _ M/C_ 2-Deburr if necessary 120 QC2- Inspect parts off machine FAI/FAIB 0.00 *120* QC 0.00 Quality Control 93983 (28)

												DQA:	Date	:
NCR:	Yes	/ No			,	WORK ORDER NON-C	O	NFORM	MANCE / UP	DATE		•		•
								_				QA Closed:	Date	:
Work Ord	er.					DISPOSITION				AGAIN:	ST DE	PARTMENT,	/PROCESS	
Part I	- No					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstul Small Fa Finishii Composi	ab ng	1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Descri	ption of work order update		Initial	Act	tion		Sign &		
Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Desci	ription	-	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved														
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Landi		<mark>ear</mark> Bending Centre No	ot Conco	atric to		General Bend BOM/Route		Grain Hardwa	ro			Ovalized Over/Under	tolerance	Pressure/Forced Temperature/Cure
		Cracks		itiic to	o''3 _	Broken/Damaged		Inspecti	on Incomplete			Part Incorre	ct _	Weld
	-	Crushed/C Cuffs	Crimped.			Burrs Contamination		Mainte		Jnclear		Part Lost/Mi Part Moved	_	Wrong Stock Pulled
		leat Treanspection		Tube		Countersink Cut Too Short	_	Mislabe Misread				Positioned V Power Loss/		Other
	F	Ripples in	Bend			Drill Holes		Offset			<u> </u>		_	•

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

November-12-12 3:33:35 PM

Item ID: 647.9014 Accept *N900040100* Setup Start **Revision ID:** Item Name: Strut Bracket **Start Date:** 12/11/2012 Start Qty: 20.00 **Cust Item ID: Required Date:** 03/12/2012 Req'd Qty: 20.00 **Customer:** Reference: Run **Process Plan:** Approvals: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Reject Accept Insp. **Work Center ID Description Run Hours** Qty Code Qty Number Stamp 130 QC8- Inspect parts - second check 0.00 *130* OC 0.00 Memo Quality Control 140 Form as per dwg 0.00 *140* Brake NC 0.00 Memo Brake NC 150 QC5- Inspect part completeness to step on W/O 0.00

150

Quality Control

Memo

0.00

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NCR: Y	es /	٧o			WORK ORDER NON-	CON	FORM	MANCE / UPDAT	ΓΕ	•		. •
					,					QA Closed:	Date:	
Work Orde	r:				DISPOSITION	_			AGAINST DE	PARTMENT/		
Part N NCR N					Rework Scrap Use-as-is Work Order Update		! Therm	Machining S noforming	Crosstube Small Fab Finishing omposite		Water Jet J. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
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Root Cause	Da	te Ste	Qty	1	iption of work order update or Non-conformance	1	nitial ef Eng	Action Description	on	Sign & Date	Verification	QC Inspector
quip/Tooling Operator Material etup Other Process upplier Fraining				`			100					
	•				F	AULT	CATE	GORY				
Landin	g Gear				General				-	•		_
-	Crack Crush Cuffs Heat Inspe Rippl	e Not Cond s ned/Crimpe Treat ction Strip es in Bend ne Waves in	d. in Tube a Extrusio		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instructi Mainte Mislabe Misread Offset Out of C	on Incomplete ions Incomplete/Uncle nance led I	ear	Ovalized Over/Under Part Incorred Part Lost/Mis Part Moved Positioned W Power Loss/S	st ssing /rong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
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Outside Dimensions

DQA:

Date:

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Packaging

Page 3

November-12-12 3:33:35 PM 647.9014 Item ID: Accept *N900040100* Setup Start **Revision ID:** Item Name: Strut Bracket **Start Date:** 12/11/2012 **Start Qty: 20.00** Cust Item ID: **Required Date:** 03/12/2012 Reg'd Oty: 20.00 **Customer:** Reference: Run Approvals: Process Plan: Date: **Tooling:** Date: Stop QC: Date: SPC(Y/N): Date: Sequence ID/ **Operation** Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID Description Qty **Run Hours** Code Qty Number Stamp 190 0.00 *190* SprayPaint 0.00 Memo **Spray Painting** PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2) PRIMER BATCH: 125452 200 QC14- Inspect Spray Paint *200* QC Memo Quality Control Identify as per dwg & Stock Location: 210 28x & 4,10. 13-06-6 0.00 *210* Packaging 0.00

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

												DQA:	Date:	
NCR:	Yes	/ No					WORK ORDER NON-C	100	NFOR	MANCE / UPDATE		•		•
							7				Q	(A Closed:	Date:	
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							Use-as-is		Thern	noforming Finishing	_	Rec/Stor	re/Packaging	Other
NCR 1	No.				•		Work Order Update]		Large Fab Composite			Supplier	ا لـا
Root					Desc	rip	otion of work order update		Initial	Action		Sign &		
Cause		Date	Step	Qty		0	r Non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
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						- 1				• **==				

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

Quality Control

Page 4

November-12-12 3:33:35 PM Item ID: 647.9014 Accept *N900040100* Setup Start **Revision ID:** Item Name: Strut Bracket **Start Date: Start Qty: 20.00** 12/11/2012 Cust Item ID: **Required Date:** 03/12/2012 Req'd Qty: 20.00 **Customer:** Reference: Run Approvals: **Process Plan:** Date: Tooling: Date: QC: SPC (Y/N): Date: Date: Sequence ID/ Tool ID Operation Set Up/ Tool # Plan Accept Reject Reject Insp. Work Center ID Description **Run Hours** Code Qty Qty Number Stamp 220 QC21- Final Inspection - Work Order Release 0.00 *220* 0.00 Memo

MB-di-1

										DQA:	Date:	
NCR:	Yes	/ No			WORK ORDER NON	N-CON	FORM	MANCE / UP		QA Closed:	Date:	
Work Ord	er:				DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	
Part No. NCR No.					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube Small Fab Thermoforming Finishing Composite			Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier		Engineering Quality Other
Root					Description of work order update	e In	itial	Ac	tion	Sign &		
Cause		Date	Step	Qty	or Non-conformance	Chie	ef Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	Ш											
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Setup												
Other				١,								
Process	П				1							
Supplier	П				,							
Training	П											
Unapproved												
			-			FAULT	CATE	GORY				

Bend Grain Pressure/Forced Bending Ovalized BOM/Route Centre Not Concentric to O/S Over/Under tolerance Temperature/Cure Hardware Broken/Damaged Cracks Inspection Incomplete Weld Part Incorrect Crushed/Crimped. Burrs Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled Cuffs Part Moved Contamination Maintenance Heat Treat Countersink Mislabeled Positioned Wrong Inspection Strip in Tube Cut Too Short Misread Power Loss/Surge Other Ripples in Bend Drill Holes Offset Torque Waves in Extrusion Out of Calibration Drawing Finish Turning Sequence Out of Sequence Wave/Twist in Tube Folio Outside Dimensions

General

Landing Gear

Picklist Print

November-12-12 3:33:39 PM

Work Order ID: 92982

Parent Item:

647.9014

Parent Item Name: Strut Bracket

92982

647 9014

Start Date: 12/11/2012

Required Date: 03/12/2012

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP REV: A 12.11.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	
M304S16GA		Purchased	No	· · ·		110	sf	324.8080	0.033	0.694737	1.5	-		-
M304S16	GA								**			2	,—	

304/316 Sheet .063

Location	Loc Qty	Loc Code	(8)
MAT020	324.808		
122245	51.078		
122753	49.63		
123136	224.1		123136

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NO	ON-COI	VFORM	MANCE / UPD	ATE	0.161		,
						<u> </u>	1	ī			QA Closed:	Date:	
Nork Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part						Rewor Scra Use-as-	р	r	Skid-tube Machining Moforming	Crosstube Small Fab Finishing	1	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR	No.	<u></u>	······································			Work Order Updat	-		~ —	Composite	ince/stor	Supplier	
Root					Desci	ription of work order upda	ate I	nitial	Actio	n	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descrip	otion	Date	Verification	QC Inspector
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		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	t Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	ct 🗀	Weld
		Crushed/0	Crimped.			Burrs		Instructi	ons Incomplete/Un	clear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		_
		Heat Trea	t		Γ	Countersink		Mislabe	led		Positioned V	Vrong	
		Inspection	Strip in	Tube		Cut Too Short		Misread			Power Loss/		Other
	_	Ripples in	-			Drill Holes		Offset			•	_	
		Torque W	aves in E	xtrusio	1	Drawing		Out of C	alibration				
		Turning Se	equence		F	Finish		Out of S	equence				

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wave/Twist in Tube

• .		1
	ENGINEERING CHANGE NOTIC NO. 03266	SHEET 1 OF 2
APICAL	DWG NO. 647.9000 REV: N/C BY A. QUAN DATE: 11/15	5/11 EFFECT ON DWG
INDUSTRIES, INC.	DWG TITLE: SHEETMETAL	100
	APPROVED BY ENGRY JOHN MFG DOTH DU COMIN &	EFF: CURRENT ORDER AND STOCK
TRANSACTION CODES (TC) A-ADD C-CREATE R-REVISE D-DELETE	REASON REVISED 647,9014 MATERIAL, REVISED DIMENSIONS	OF P/N 647.9012
SHEET 1, NOTE	NOTES: UNLESS OTHERWISE SPECIFIED 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N 3. DEBURR AND BREAK ALL SHARP EDGES 4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT. CENTURY GOTHIC. 5. ALL DIMENSIONS SHOWN PRIOR TO FINISH. 6 PART DIMENSIONS CONTROLLED BY CAD MODEL; FILE NAME: 647.9016 DOUBLER.SLDPRT-LAST 7. INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL MAX PER FACE. 8 MATERIAL: 304SS IAW AMS 5643 9 FINISH: PRIME IAW MIL-P-23377J, TYPE I, CLASS N	SHOP COPY P. TERRITO PROINFIELD UNCONTROLLED COPY SUBJECT TO AMPLIO TO AMPLIO TO THE WORK OKDER NO. 92987 MCJ 12-11-13
5 R 647,9014	STRUT BRACKET	
FIN TO PART NUMBER	DESCRIPTION MATERIAL	
DOCUMENTS EFFECTED:	☐ MDL ☐ INSTALL INSTRUC ☐ ICA ❷ B☐M ☐ MAJ☐R ☒ MINŪR ☐ Y	VIEW REQUIRED

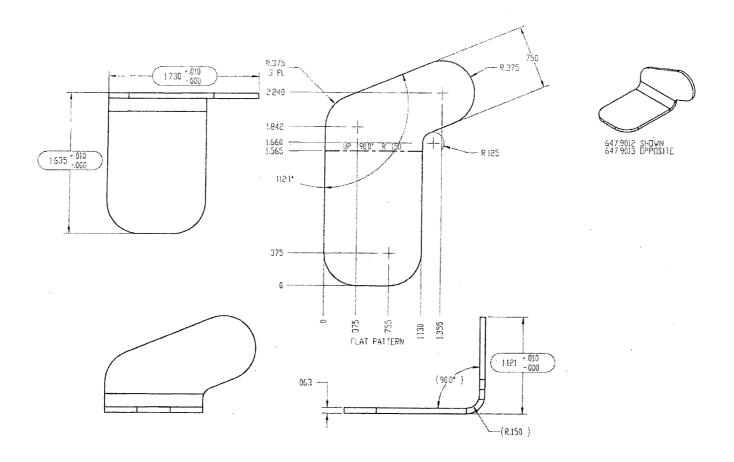
92982

APICAL 1 JUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 03266

SHEET L OF 2

SHEET 3, IS:



F/N	TC	PART	NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
		,					

ENGINEERING CHANGE NOTIC $N\square$. 03213 SHEET PREPARED BY EFFECT ON DWG DWG NO. 647,9000 REV: N/C DATE: 11/09/11 A. QUAN ☐ INC. ☑ UNINC DWG TITLE: SHEETMETAL INDUSTRIES, INC. ENGR/ APPROVED BY EFF CURRENT ORDER AND STOCK TRANSACTION CODES (TC) REASON: RÉVISED 647.9013 DIMENSIONS A-ADD C-CREATE R-REVISE D-DELETE SHEET 3, IS: R 375 1 730 ±.010 -.000 3 PL 2.240 1642 1.660 1.565 647.9012 SHCVN 647.9013 IPPOSITE OP 900 R 150 1.635 ^{+.010} -.000 112.1* 375 ---1355 130 FLAT PATTERN 1.121 *.010 (90.0 963 -(R.150) F/N/TC/PART NUMBER DESCRIPTION MATERIAL SPECIFICATION. DOCUMENTS EFFECTED CHANGE CATEGORY DER REVIEW REQUIRED □ INSTALL INSTRUC □ ICA □ BOM □ MAJOR ☑ MINOR ☐ MDL O YES X NO

NOTES: UNLESS OTHERWISE SPECIFIED

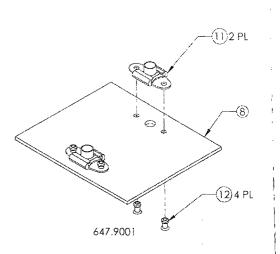
MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4

FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N

- 3. DEBURR AND BREAK ALL SHARP EDGES
- 4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT. CENTURY GOTHIC.
- 5. ALL DIMENSIONS SHOWN PRIOR TO FINISH.

PART DIMENSIONS CONTROLLED BY CAD MODEL; FILE NAME: 647.9016 DOUBLER.SLDPRT-LAST MODIFIED 06-29-10

7. INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL MAX PER FACE.

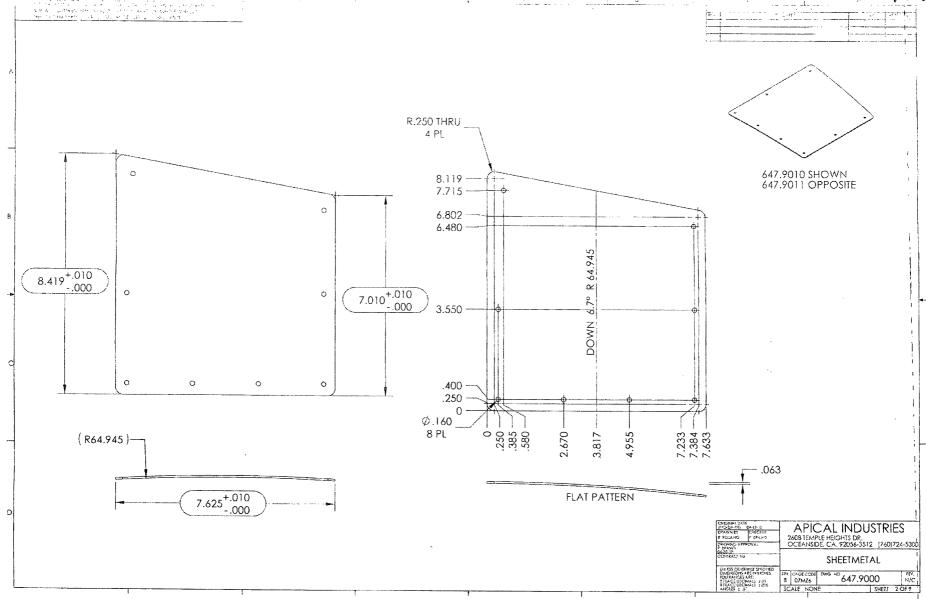


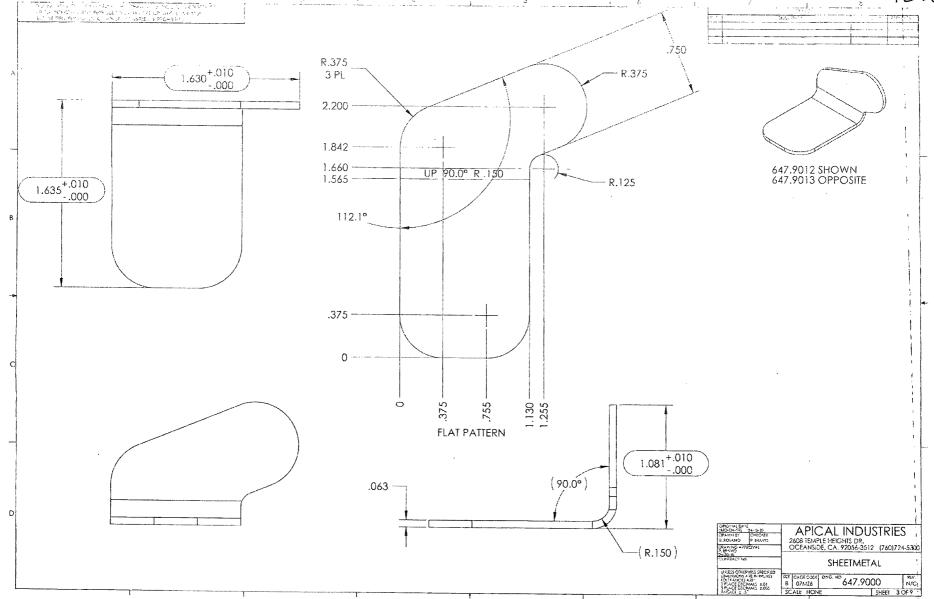
UNINCORPORATED ECN(s)

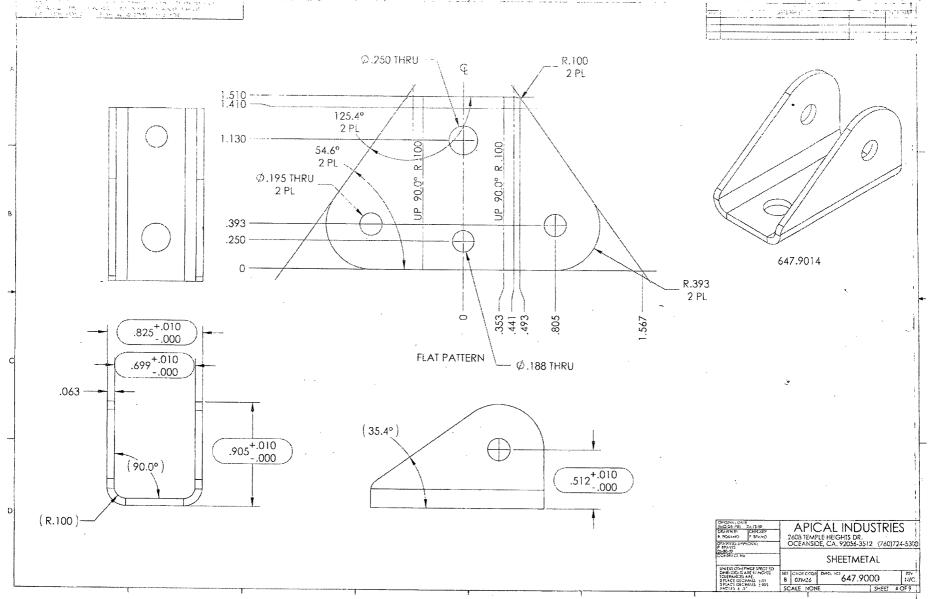
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		8	647.9017	DOUBLER		Z
		7	647.9016	DOUBLER		AA
		6	647.9015	DOUBLER		<i>Δ</i> Δ ,
		5	647.9014	STRUT BRACKET		4
		4	647.9013	FWD CLIP		ZA
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	$\leq \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$		647.9001	DOUBLER ASSY		2
.90	01 FE	ND#	PART#	DESCRIPTION	MATL	SPEC.
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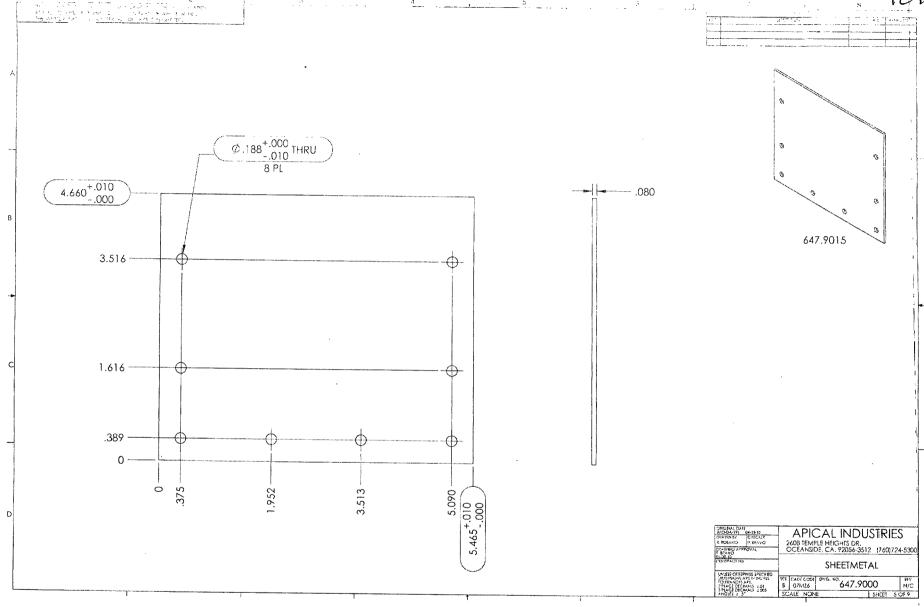
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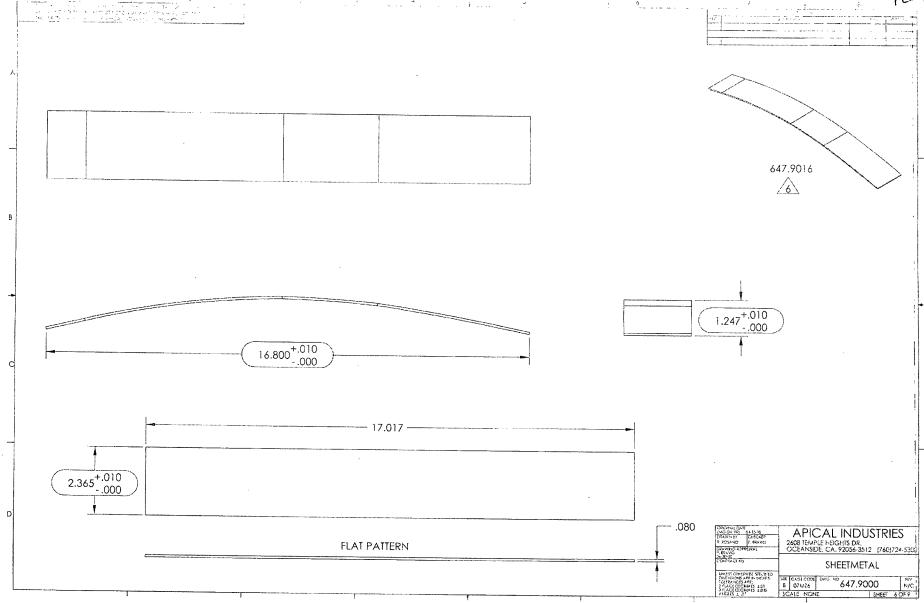
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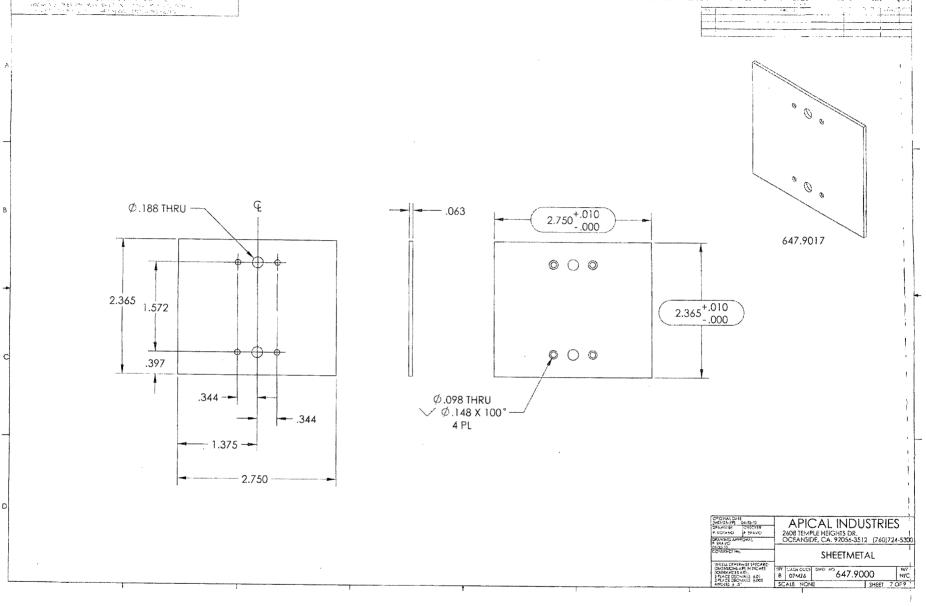




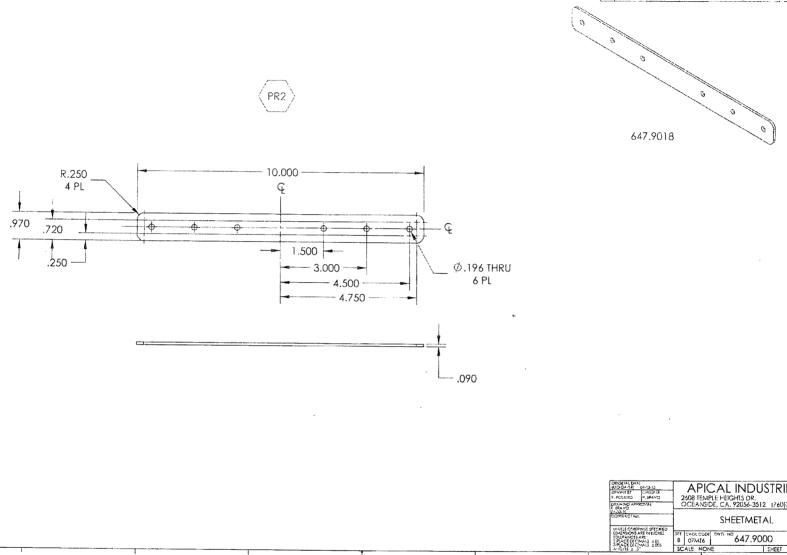


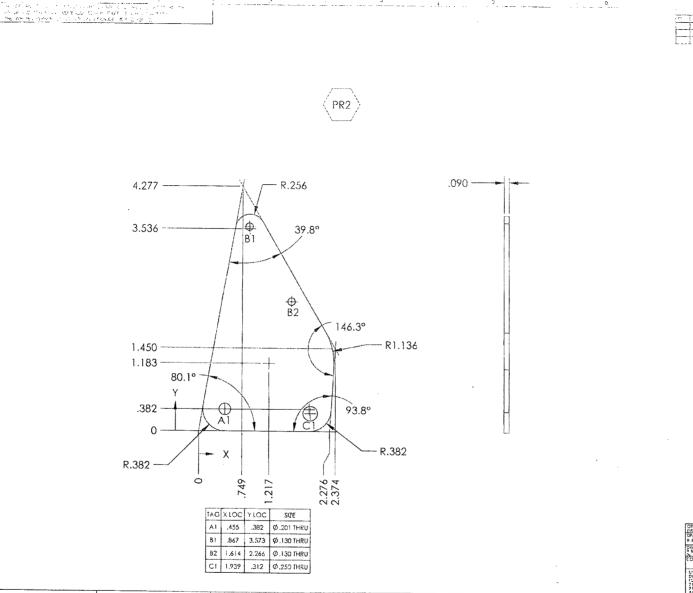


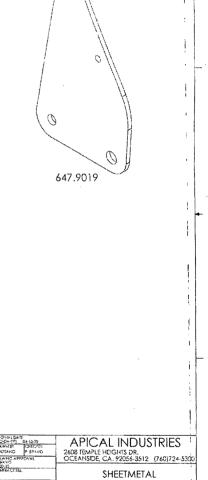




SHEETMETAL







B 07/AZE 000 000 100 647.9000

DART AEROSPACE LTD	Work Order:	45683
Description: STRUT BRACKET	Part Number:	647-9014
Inspection Dwg: 647-9614 Rev: NC		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
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Measured by: l	Audited by:	w.59	Preliminary Approval:				
Date: 12-11-17	Date:	1	Date:				

Rev	Date	Change	4.	Revised by	Approved
E	10.04.14	Added preliminary approval		KJ	